

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Rec'd PCT/PTO

02 MAY 2005

Applicant's or agent's file reference P06148PC00	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE 2003/001636	International filing date (day/month/year) 22.10.2003	Priority date (day/month/year) 30.10.2002
International Patent Classification (IPC) or national classification and IPC H04L12/26, H04L12/56		
Applicant Operax AB et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

Date of submission of the demand 21.05.2004	Date of completion of this report 27.01.2005
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Kristoffer Ogebjer/EK Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001636

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:

pages 1 - 13 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* 14 - 16 received by this Authority on 19.10.2004

pages* _____ received by this Authority on _____

☒ the drawings:

pages 1 - 8 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International Application No.

PCT/SE 2003/001636

Box No. II Priority

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
☐ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

The priority is considered valid. Therefore, documents US2002172222 A1 and US2033028656 A1 are of no relevance for this report.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001636

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-18</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-18</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-18</u>	YES
	Claims	_____	NO

2. Citations and explanations (Rule 70.7)

D1: US, A1, 2002083185
D2: WO, A1, 02056564
D3: EP, A2, 1035666
D4: EP, A2, 1098490
D5: WO, A1, 9839881
D6: EP, A1, 1248431
D7: US, A, 5887136

The object of the invention is to allocate resources in advance before a session is initiated to decrease the amount of signalling during a session. The allocation is based on usage history.

D1 discloses a system where resources are reserved in advanced based on history usage ([0059]).

D2, which is to be considered as the closest state of the art, discloses a system where resources are reserved in advanced based on history usage (p. 6, lines 1-6; p. 12, lines 18-31; p. 15, lines 13-16).

D3 discloses a system where resources for a mobile telephone is allocated in advance based on statistics that is formed through usage ([0009], claim 17). D4 discloses a IP-system where statistics based on used resources for a session are created ([0133]; claims 12,13,17,18). Also D5 discloses a system that stores the usage of resources (claim 7). D6 and D7 disclose systems where resources are allocated before the session starts.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
US2002172222 A1	21/11/2002	29/03/2001	
US2003028656 A1	06/02/2003	11/07/2002	

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: BOX V

The cited documents represent the general state of the art.
The invention defined in claims 1-18 is not disclosed by any of these documents.
The cited prior art does not give any indication that would lead a person skilled in the art to the claimed method and apparatus to reserve resources from a second resource manager. Therefore, the claimed invention is not obvious to a person skilled in the art.
Accordingly, the invention defined in claims 1-18 is novel and is considered to involve an inventive step. The invention is industrially applicable.

CLAIMS

1. Method for allocating network resources within an IP network, the method is **characterised in** that it comprises the steps of:

5 -*allocating* (801) at a first resource manager reserved network resources controlled by at least a second resource manager in advance before a session, that will use said resources, has started based on usage history statistics if available usage history statistics is applicable to said network resource reservation request,

10 -*allocating* (802) network resources individually for said requested network resource reservation if applicable usage history statistics is not available, and

 -*updating* (803) said usage history statistics based upon said individually allocated network resources.

2. Method according to claim 1, wherein the method comprises the further step of:

 -*manual adjusting* usage history statistics.

3. Method according to any of claims 1-2, wherein said individually allocated network resources is allocated per reservation occasion.

4. Method according to any of claims 1-3, wherein said allocated reserved network resources is allocated based on usage history statistics per destination.

5. Method according to claim 4, wherein the time interval between each occasion, which network resources are allocated based on usage history statistics, may either be equal for all destinations or differ between the destinations.

6. Method according to claim 4, wherein said allocation of reserved network resources is further based on statistics for individual services.
7. Method according to any of claims 1-6, wherein the usage history statistics comprises any of the parameters a peak value, an average value or a variance.
8. Method according to any of claims 1-7, wherein said first and/or second resource manager is implemented within a server or a router in said IP network.
9. A computer program product directly loadable into a server and/or router within an IP network comprising the software code portions for performing the steps of any of claims 1-8.
- 10.A computer program product stored on a computer usable medium, comprising readable program for causing a processing means within a server and/or router within an IP network to control the execution of the steps of any of claims 1-8.
- 11.A first resource manager in an IP-network is **characterised in** that it comprises means for allocating network resources within the IP network controlled by at least a second resource manager, said first resource manager comprises:
- means (702) for allocating reserved network resources in advance before a session, that will use said resources, has started based on usage history statistics (708) when available usage history statistics is applicable to said network resource reservation request, when applicable usage history statistics (708) is not available,
 - means (704) for allocating network resources individually for said requested network resource reservation, and
 - means (706) for updating said usage history statistics (708) based upon said individually allocated network resources.

12. The first resource manager according to claim 11, wherein said resource manager comprises means for manual adjusting usage history statistics.

13. The first resource manager according to any of claims 11-12, wherein the resource manager comprises means for allocating said individually allocated network resources per reservation occasion.

14. The first resource manager according to any of claims 11-13, wherein the resource manager comprises means for allocating said allocated reserved network resources based on usage history statistics per destination.

15. The first resource manager according to claim 14, wherein the time interval between each occasion, which network resources are allocated based on usage history statistics, may either be equal for all destinations or differ between the destinations.

16. The first resource manager according to claim 14, wherein said means for allocating network resources further comprises means for using statistics for individual services for said allocation network resource reservations.

17. The first resource manager according to any of claims 11-16, wherein the usage history statistics comprises any of the parameters a peak value, an average value or a variance.

18. The first resource manager according to any of claims 11-17, wherein said resource manager is implemented within a server or a router in said IP network.